Prisemi®

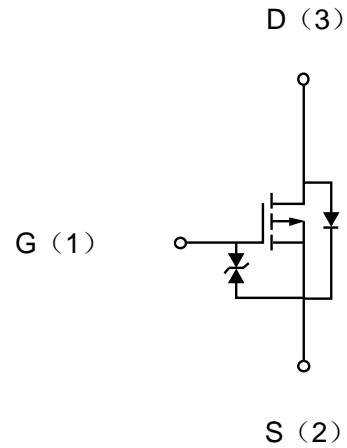## Description

The MOSFET provide the best combination of fast switching, low on-resistance and cost-effectiveness.

MOSFET Product Summary		
$V_{DS}(V)$	$R_{DS(on)}(\Omega)$	$I_D(mA)$
-20	0.45@ V_{GS}=-4.5V	-800
	0.62@ V_{GS}=-2.5V	
	0.86@ V_{GS}=-1.8V	

D（3）

G（1）

S（2）

Absolute maximum rating@25℃

Parameter		Symbol	Value	Units
Drain-Source Voltage		V_{DS}	-20	V
Gate-Source Voltage		V_{GS}	±10	V
Continuous Drain Curren(T_J=150℃)	Continuous	I_D	-800	mA
	Pulsed	I_{DP}	-1200	
Source current(Body diode)	Continuous	I_S	-500	mA
	Pulsed	I_{SP}	-1200	
Total power dissipation		P_D	150	mW
Channel temperature		T_{CH}	150	℃
Range of storage temperature		T_{STG}	-55 to +150	℃

Thermal resistance

Parameter	Symbol	Limits	Units
Channel to ambient	Rth(ch-a)	833	℃/W

Electrical characteristics per line@25℃(unless otherwise specified)

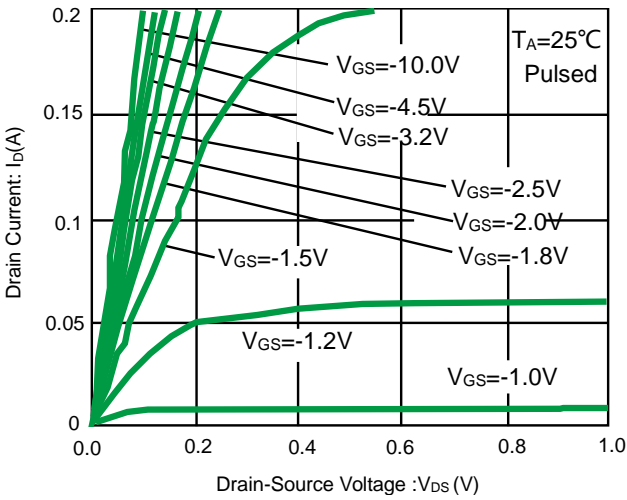| Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Drain-Source Breakdown Voltage	BV_{DSS}	I_D =-1mA,V_{GS}=0V	-20		-	V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} =-20V,V_{GS}=0V	-	-	-1	µA
Gate-Body Leakage Current	I_{GSS}	V_{DS} =0V,V_{GS}=±8V	-	-	±10	µA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS} =-10V, I_D =-100µA	-0.5	-	-1.1	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	V_{GS}=-4.5V, I_D =-700mA	-	0.45	0.7	Ω
		V_{GS}=-2.5V, I_D =-300mA	-	0.62	0.85	Ω
		V_{GS}=-1.8V, I_D =-250mA		0.86	1.2	Ω
Forward transfer admittance	｜Yfs｜	V_{DS}=-10V, I_D =-200mA	0.3			s
Input Capacitance	C_{ISS}	V_{GS}=0V, V_{DS} =-10V, f=1MHz	-	110		pF
Output Capacitance	C_{OSS}		-	9		pF
Reverse Transfer Capacitance	C_{RSS}		-	5		pF
Turn-On Delay Time	$t_{d(on)}$	V_{DD}=-10V, V_{GS} =-4.5V, R_G=10Ω,R_L=100Ω I_D =-100mA	-	5		ns
Turn-Off Delay Time	$t_{d(off)}$		-	15		ns
Turn-On Rise Time	t_r		-	4		ns
Turn-On Fall Time	t_f		-	13		ns
Total Gate Charge	Qg	V_{DD}=-10V , V_{GS} =-4.5V, I_D =-200mA R_G=10Ω,R_L=50Ω		1.4		nC
Gate-Source Charge	Qgs			0.3		nC
Gate-Drain Charge	Qgd			0.3		nC
Drain-Source Diode Forward Voltage	V_{SD}	V_{GS}=0V,I_S=-200mA		-	-1.2	V

Typical Characteristics
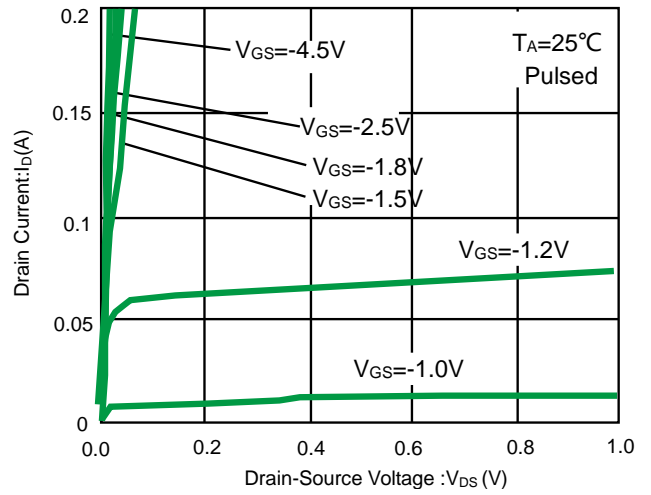

Fig 1. Typical output characteristics(Ⅰ)

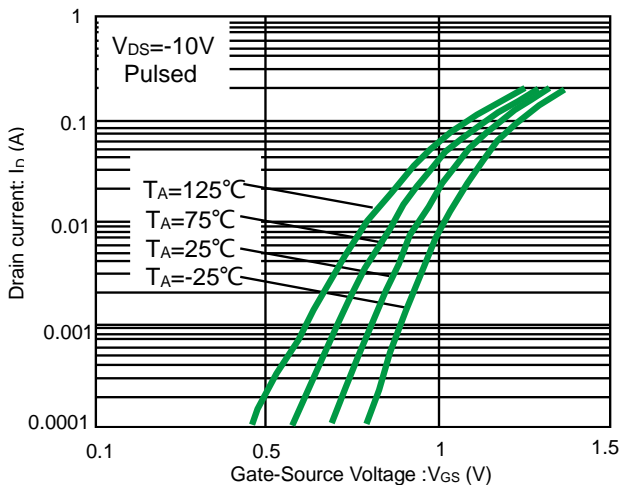Fig 2. Typical output characteristics(Ⅱ)
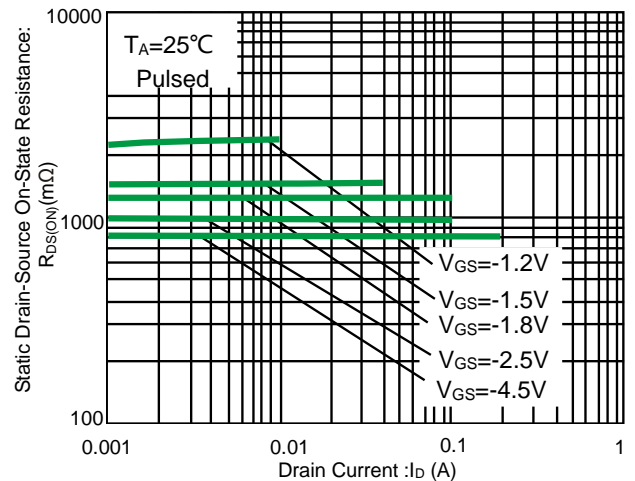

Fig 3. Typical transfer characteristics

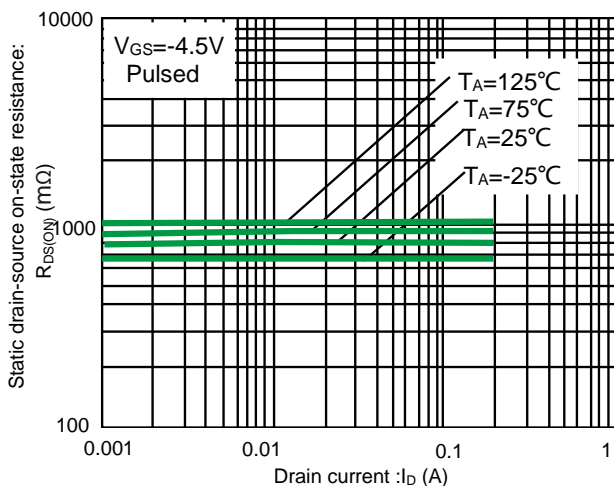Fig 4. Static drain-source on-state resistance vs.

drain current(Ⅰ)

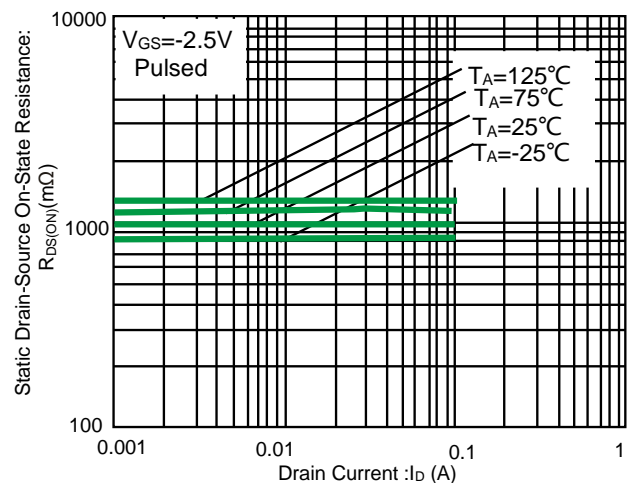Fig 5. Static drain-source on-state resistance vs.

drain current（Ⅱ）

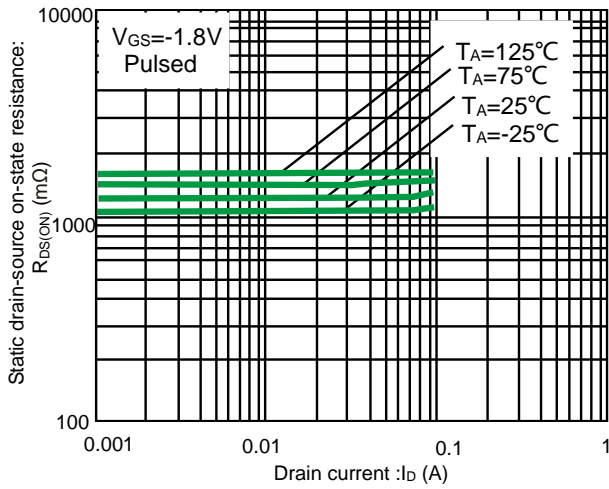Fig 6. Static drain-source on-state resistance vs.

drain current(Ⅲ)

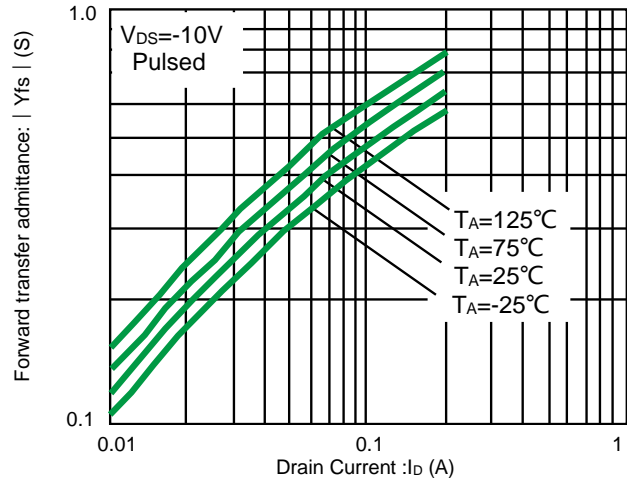Fig 7. Static drain-source on-state resistance vs. drain current(Ⅳ)

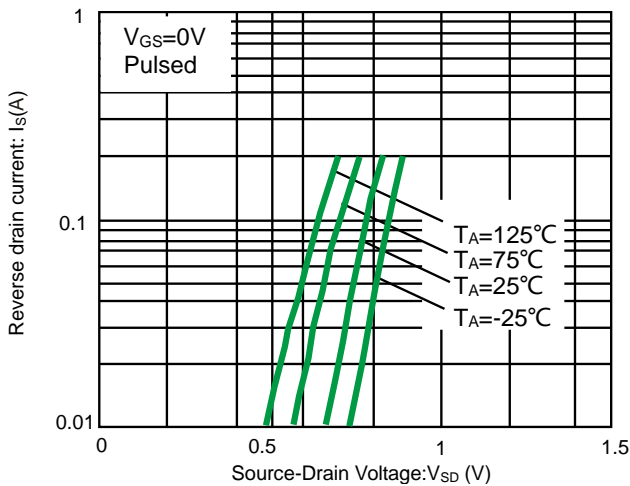Fig 8. Forward transfer admittance vs. drain current

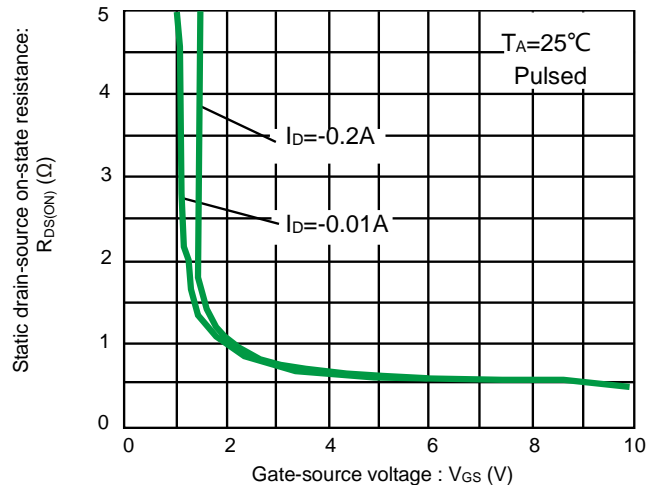Fig 9. Reverse drain current vs. source-drain voltage

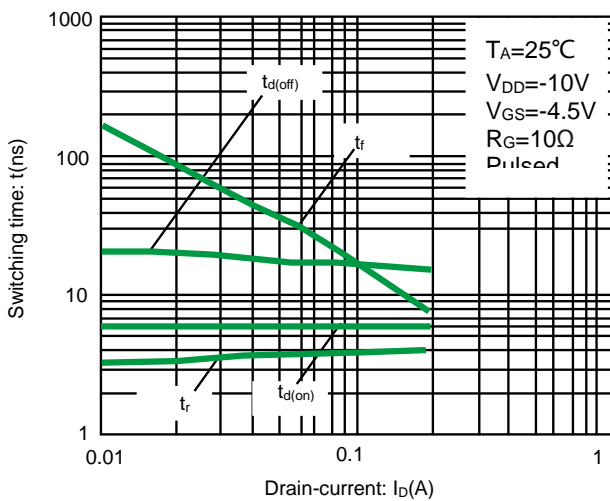Fig 10. Static drain-source on-state resistance vs. gate source voltage
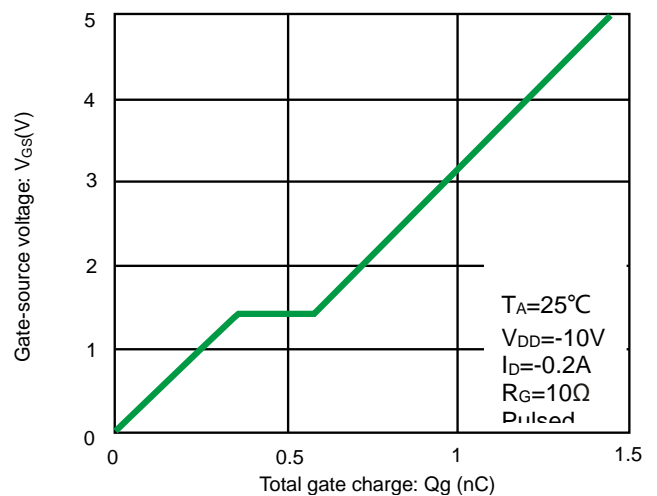

Fig 11. Switching characteristics

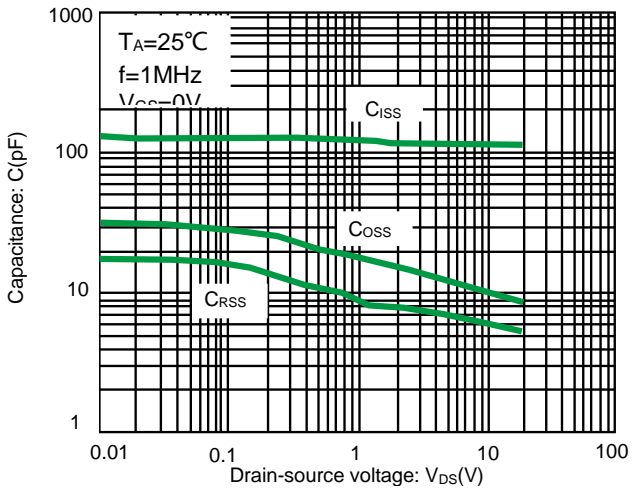Fig 12. Dynamic input characteristics

Fig 13. Typical capacitance vs. drain-source voltage
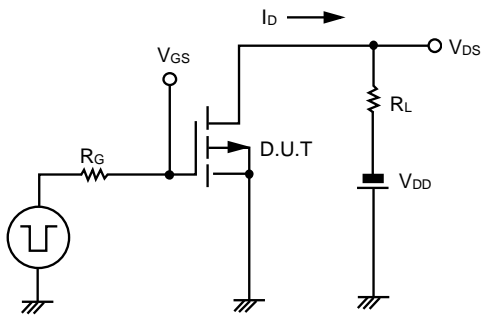
Measurement circuit
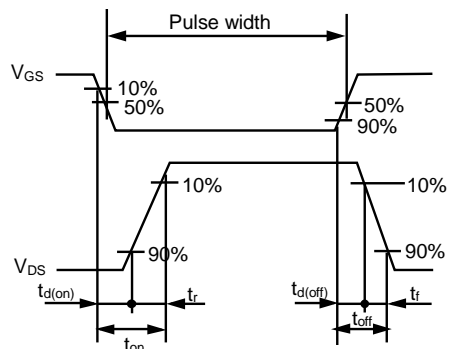

Fig.1-1 Switching time measurement circuit

Fig.1-2 Switching time waveforms

Fig.2-1 Gate charge measurement circuit

Fig.2-2 Gate charge waveform

Product dimension (SOT-723)

Side View

R0.1-R0.15

9°(4x)

0.437±0.013

(0.11)

Bottom View

1.2±0.03

0.8±0.025

0.4

（2）

（1）

0.2

（3）

1.2±0.025

0.25±0.05

Unit：mm

0.6

0.6

0.6

0.65

0.4

0.8

1.0

Unit：mm

Ordering information

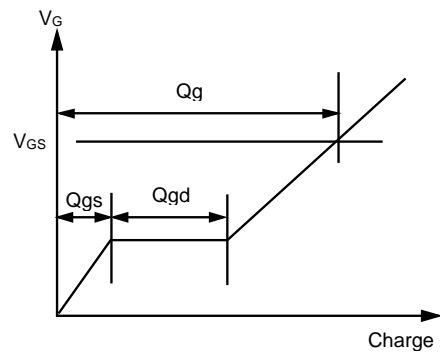| Device	Package	Shipping
PPM723T201E0	SOT-723 (Pb-Free)	10000 / Tape & Reel

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